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PITCH CANKER OF PINE

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Pitch canker has been reported in pine nurseries, forest plantings, and on pines grown as ornamental trees from Virginia to Florida and west to Tennessee and Mississippi (5,7). It has reached the epidemic stage on forest plantings in several counties in Florida with Volusia, Union, and Flagler having a high incidence of the disease. Pitch canker is considered to be the principal disease affecting South Florida slash pine, P. elliottii Engelm. var. densa Little & Dorman (1).

The disease was first reported from Virginia on Pinus virginiana Mill, in the spring of 1945 (3). The causal organism, Fusarium lateritium f. pini (Nees.) Hepting was described in 1949 by Snyder et al. (8). Inoculation tests showed that this organism caused pitch canker on Virginia, Pinus virginiana Mill., shortleaf, P. echinata Mill., pitch, P. rugida Mill., slash, P. elliottii var. elliottii Engelm. and P. elliottii var. densa, longleaf, P. palustris Mill., scotch, P. sylvestris L., table mountain pine, P. pungens Lamb., and Sitka spruce, Picea sitchensis (Bong.) Carr. Pines appearing to have some resistance to the disease are loblolly, P. taeda, L., pond, P. serotina Michx., white, P. strobus L., red, P. resinosa Ait., and Japanese red pine, P. densiflora Sieb. and Zucc. (4,5).

SYMPTOMS. Sunken cankers may form on the trunk (bole), terminal growth, and branches of trees, often resulting in death of leaders above the canker (fig. 1A, B). It is not unusual for young trees to die within one year (2,4,5). A copious flow of pitch from the cankers is the characteristic symptom of this disease which separates it from other cankers of pine (fig. 1C). White fungal mats may be observed under the intact sunken bark at the canker site (4).

DISSEMINATION. This pathogen's ability to spread rapidly under favorable environmental conditions along with its wide distribution causes concern to plantation owners who may suddenly be faced with heavy stand damage (1,7). The fungus does not sporulate on the surface of the canker, reducing the possibility of spread by wind and rain. It is thought by some investigators that dissemination by insects feeding on the fungal mats beneath the bark is a possibility. Insects also may wound healthy trees, thus helping to establish infection courts. Pine tip moth, Rhyacionia spp., has

Fig. 1. Pitch canker of pine. A) Diseased tree showing dieback and flagging of branch leaders. B) Severely infected terminal leader. C) Heavy pitch exuding from canker area.

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often been associated with pitch canker, but researchers have not been able to prove that this insect transmits the disease (6).

CONTROL. Because neither the method of infection nor the mode of spread of this pathogen is known, control is difficult (7). Cultural practices, such as removal of diseased plant parts, selective thinning in severely affected plantings, or the total harvesting of stands where the threat of excessive loss exists, may help reduce losses. Wildfire burning, which can cause even greater damage where pitch occurs, should be avoided. The planting of varieties showing resistance is recommended (2,4,7).

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